



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/711,440 | 11/13/2000 | David Lipson | 2 | 7710 |

7590 10/23/2003

Peter Forrest
7330 Bancroft Way
Inver Grove Heights, MN 55077-3115

EXAMINER

JUNG, WILLIAM C

ART UNIT PAPER NUMBER

3737

DATE MAILED: 10/23/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/711,440

Applicant(s)

LIPSON ET AL.

Examiner

William Jung

Art Unit

3737

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) _____ is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 4-13, and 15--18 is/are rejected.
- 7) ☒ Claim(s) 3 and 14 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 2, 4-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Ragauskas et al* (US 5,388,583) in view of *Alexandrov et al* (ISPUB.com).

Claims 1, 2, and 11: *Ragauskas et al* substantially disclose of an ultrasound method and apparatus where the ultrasonic transducer is dynamically coupled to the skull to monitor intracranial blood pressure (col. 3, lines 24-59). More specifically, *Ragauskas et al* disclose of ultrasound transducer, which is dynamically coupled to the skull where the mounting location can be changed over course of monitoring process as seen in figures 1-3. More specifically, the mounting locations 34, 34', 34'' and 32, 32', 32'' are shown in figures 2 and 3. In conjunction with ultrasound transducer and ultrasound system, *Ragauskas et al* disclose that the ICP and the cerebrovascular blood flow is assessed by measuring non-ultrasonic based diagnostic tests such as the intracranial pressure pulses and their reactions to various tests (jugular veins compression, hyperventilation, retention or respiration, various pharmacological tests, etc.) indicate accurately the type of pathology (col. 1, lines 20-30). *Alexandrov et al* teaches that the transcranial Doppler can be used to diagnose ischemic cerebrovascular disease including ischemic stroke or narrow of the intracranial artery.

Art Unit: 3737

Claims 4 and 5: Furthermore, Ragauskas et al ('583) discloses of image processing and image display of the ultrasonic data acquired from the method and apparatus above as shown in flow chart in figure 18.

Claims 6-10: In addition, Ragauskas et al ('583) disclose of measuring and assessing the changes in blood flow and blood flow characteristic such as improper blood circulation, i.e., normal and abnormal (inadequate or diffused blood flow).

Therefore, it would have been obvious to one having an ordinary skill in the art at the time the invention was made to apply the teachings of Ragauskas et al ('583) with the teachings of Alexandrov et al to achieve the claimed invention.

3. Claims 12, 13, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Ragauskas et al* (US 5,388,583) and *Alexandrov et al* as applied to claim 4 above, and further in view of *Ragauskas et al* (US 5,951,477).

Ragauskas et al ('583) and Alexandrov et al substantially disclose of all claimed invention in claims 12, 13, and 15. Ragauskas et al ('477) further teach that the ultrasound transducer 30 can be coupled to the ocular opening of the skull as shown in figure 1 along with coupling medium 28. The ultrasound transducer is designed to measure the ICP via flow inside the optic artery (col. 1, line 60 – col. 2, line 10). Therefore, it would have been obvious to one having an ordinary skill in the art at the time the invention was made to apply the teachings of Ragauskas et al ('583) and to the teachings of Ragauskas et al ('477) to achieve the claimed invention.

Art Unit: 3737

4. Claims 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Ragauskas et al* (US 5,388,583) and *Alexandrov et al* as applied to claim 4 above, and further in view of *Michaeli* (US 6,328,694).

Ragauskas et al ('583) and Alexandrov et al substantially disclose of all claimed invention in claims 16-18. Michaeli further teaches that the measurement accuracy of the transcranial Doppler can be improved by use of acoustic window through bone, nasal or aural opening (col. 1, lines 37-56). Therefore, it would have been obvious to one having an ordinary skill in the art at the time the invention was made to apply the teachings of Ragauskas et al ('583) and to the teachings of Michaeli to achieve the claimed invention.

Allowable Subject Matter

5. Claims 3 and 14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.


Art Unit: 3737

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William Jung whose telephone number is 703-605-4364. The examiner can normally be reached on Mon-Fri 8:30 AM to 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dennis Ruhl can be reached on 703-305-3256. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1148.


October 19, 2003


DENNIS W. RUHL
SUPERVISORY PATENT EXAMINER